

SECTION 16431
SINGLE PHASE METERING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A Single phase, self-contained watthour meter.
- B. Meter socket.

1.2 SUBMITTALS

- A. Submit the following in accordance with the requirements of Section 01300:
 - 1. Catalog Data and manufacturer's technical data, including data proving that materials comply with specified requirements. Provide catalog sheets showing ratings, dimensions, and enclosure details.
 - 2. Installation Instructions indicating application conditions and limitations of use stipulated by Product testing agency specified under Regulatory Requirements. Include instructions for storage, handling, protection, examination, preparation, installation, and starting of Product.
 - 3. Test report on installed meter.
 - 4. Wiring Diagram
 - 5. Operation and maintenance instructions.

1.3 REGULATORY REQUIREMENTS

- A. Conform to requirements of ANSI/NFPA 70 - *National Electrical Code*.
- B. Furnish products listed and classified by Underwriters Laboratories, Inc., as suitable for purposes specified and shown.

1.4 COORDINATION

Coordinate the features of the meter with the ratings and characteristics of the supply circuit.

PART 2 PRODUCTS

Use the meter specified in this Section for 120/240 V single phase services up to 200 Amps. Use the meters specified in Section 16430 for 3-phase services.

2.1 WATTHOUR METER

- A. Provide a self-contained, electro-mechanical watthour meter that meets the requirements of ANSI C12.16 and has the following characteristics:
 - 1. Form: 2S

Use Class 100 for 100 A services and Class 200 for 200 A services.

2. Class: [100] [200]

Use 15 A test current for Class 100 meters and 30 A test current for Class 200 meters.

3. Test current: [15] [30] amps
4. Voltage: 240 volts, single phase.
5. Wires: 3
6. Register: 5 dial clock type.
7. Cover: Polycarbonate

- B. Manufacturer: ABB "Type D5S".

2.2 METER SOCKET

- A. Provide ringless type meter socket for single phase watthour meter.
- B. Provide socket to accommodate [overhead] [underground] service.
- C. Socket shall be suitable for outdoor installation.

Edit C to match project requirements.

- C. Socket shall be rated [125] [200] amps, 600 volts.
- D. Socket shall have an integral manual bypass switch.
- E. Manufacturer: Siemens "WR Type".

PART 3 EXECUTION

3.1 INSTALLATION

- A. Install metering equipment where indicated on the Drawings and according to manufacturer's instructions.
- B. Mount with meter readout approximately 5 feet above the floor or ground. Install meter and enclosure plumb. Provide supports according to Section 16190 Electrical Supporting Devices.
- C. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. Where manufacturer's torque values are not furnished, use those specified in UL 486A.
- D. Ground meter and enclosure according to manufacturer's instructions and requirements in Section 16450 - Secondary Grounding.
- E. Follow manufacturer's instructions to setup meter to match electrical system characteristics.

- F. Identify meter according to Section 16195 - Electrical Identification.

3.2 FIELD QUALITY CONTROL

- A. Inspect accessible components for cleanliness, mechanical, and electrical integrity, and for presence of damage or deterioration before energizing.
- B. Verify that meter type, scale, and connection are in accordance with the Drawings, Specifications and manufacturer's instructions.
- C. Using separate calibrated meters, verify correct connection, setup, and functioning of meter. Submit test report.
 - 1. Determine accuracy of meter at 25%, 50%, 75%, and 100% of full scale.
 - 2. Calibrate watthour meter to one-half percent.
 - 3. Verify multipliers.
- D. After completing installation, cleaning, and testing, touch up scratches and mars on finish to match original finish.

END OF SECTION